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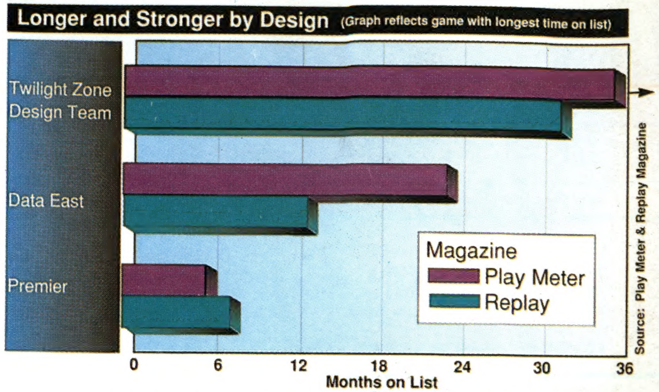

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Based on the TV Series "The Twilight Zone"™
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August 1993

TIME OUT

TWILIGHT ZONE™

Bally

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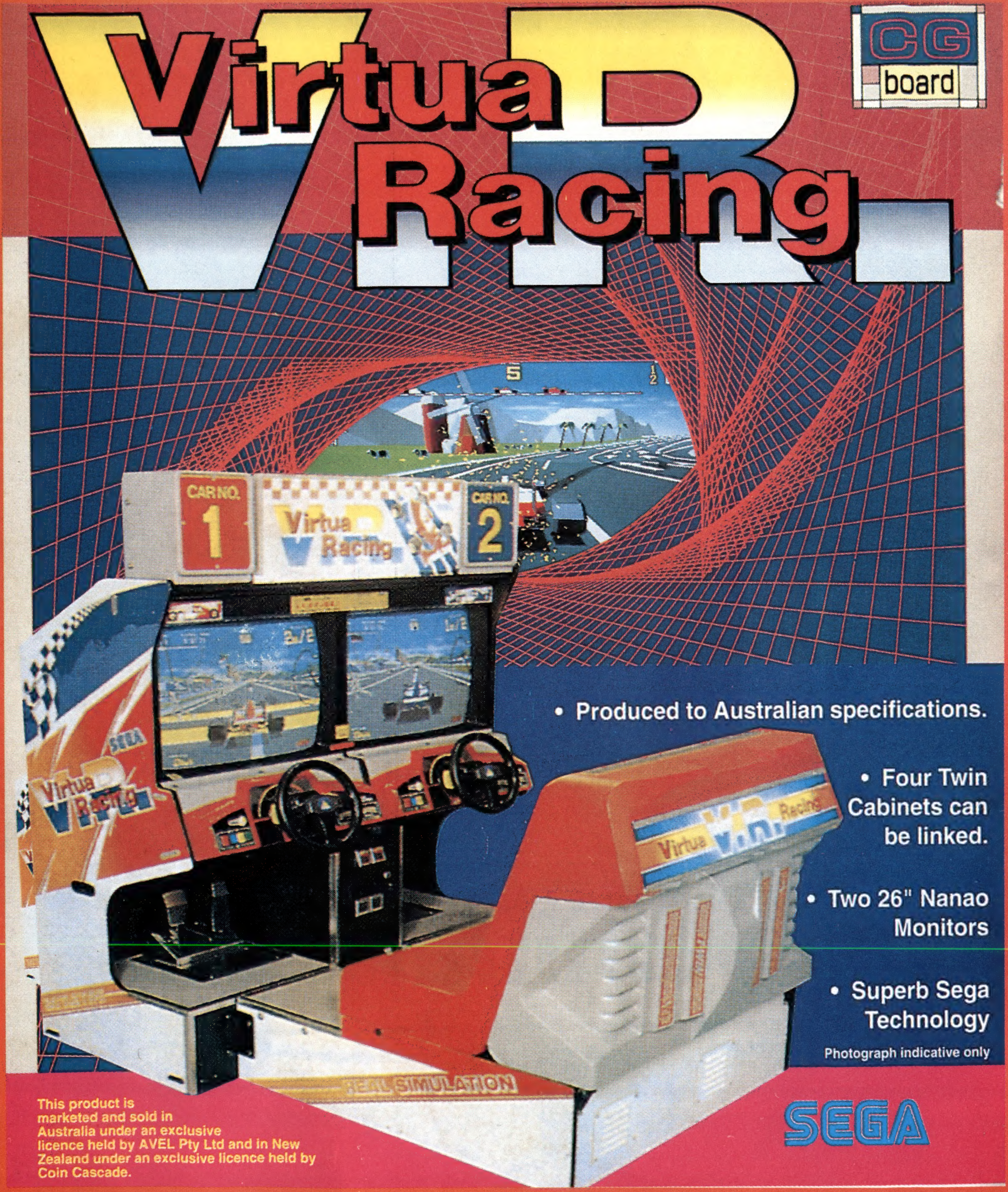
SUPERPIN

Coin Cascade Ltd., 5 Vulcan Place, Christchurch, Ph 338 1411, Fax 338 1410



- Produced to Australian specifications.
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- Two 26" Nanao Monitors
- Superb Sega Technology

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Cabal	300
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CHARTS

Australia (as published in Timezone)

Dedicated Games

1. Sega 'Out Runners'
2. Midway "NBA Jam'
3. Sega 'Virtua Racing'
4. Namco 'Suzuka 8 Hours'
5. Jaleco 'Wild Pilot'
6. Taito 'Super Chase'
7. Namco 'Final Lap 3'
8. Konami 'Lethal Enforcer'
9. ALG 'Crime Patrol'
10. Sega 'Stadium Cross'

Pinballs*

1. Bally 'Twilight Zone'
2. Williams 'Dracula'
3. Bally 'Creature/Lagoon'
4. Williams 'White Water'
5. Williams 'Fish Tales'
6. Bally 'Addams Family'
7. Bally 'Dr Who'
8. Williams 'The Getaway'
9. Williams 'Terminator 2'
10. Bally 'Blackrose'

* Data East or Gottlieb games not tested

USA (as published in Replay)

Conversion Games

1. SNK 'World Heroes 2'
2. Capcom 'SFII:CE Turbo'
3. Bundra 'Neck n' Neck'
4. Capcom 'Warriors of Fate'
5. Irem 'In The Hunt'
6. Strata 'Time Killers'
7. Konami 'C.O.W/Moo Mesa'
8. SNK '3 Count Bout'
9. SNK 'Fatal Fury 2
10. Capcom 'Streetfighter II'

Dedicated Games

1. Sega 'Virtua Racing'
2. Namco 'Suzuka 8 Hours'
3. Sega 'Stadium Cross'
4. Namco 'Lucky and Wild'
5. Atari 'Race Drivin'

Best Deluxe Videos

1. Williams 'NBA Jam'
2. Sega 'Title Fight'
3. Midway 'Mortal Kombat'
4. Konami 'Lethal Enforcers'
5. Capcom 'SFII:CE'

Pinballs

1. Midway 'Twilight Zone'
2. Data East 'Jurassic Park'
3. Midway 'Addams Family'
4. Midway 'Creature/Lagoon'
5. Williams 'White Water'
6. D.East 'Rocky & Bullwinkle'
7. Data East 'Star Wars'
8. Williams 'Dracula'
9. Williams 'Terminator 2'
10. Gott/Prem 'SFII'

Japan (as published in the Japanese Game Machine Magazine)

Conversion Games

1. Capcom 'SFII:CE Turbo'
2. Konami 'Martial Champion'
3. Compil/Sega 'Puyo Puyo'
4. Konami 'Premier Soccer'
5. Taito 'Hat Trick Hero '93'

Dedicated Games

1. Sega 'Out Runners'
2. Sega 'Title Fight'
3. Konami 'Lethal Enforcers'
4. Sega 'Virtua Racing Twin'
5. Jaleco 'Captain Flag'

Pinballs

1. Williams 'Fish Tales'
2. Williams 'White Water'
3. Data East 'Star Wars'
4. Midway 'Dr Who'
5. Midway 'Addams Family'

UK (as published in Euroslot)

Conversion Games

1. Sega 'Spiderman'
2. Taito 'Cup Final'
3. Irem 'In the Hunt'
4. Capcom 'Cadillacs & Dinos'
5. Capcom 'Street Fighter'

Dedicated Games

1. Sega 'Virtua Racing'
2. Namco 'Suzuka 8 Hours'
3. Midway 'NBA Jam'
4. Konami 'Lethal Enforcer'
5. Midway 'Mortal Kombat'

Pinballs

1. Williams 'Twilight Zone'
2. Bally 'Creature/Lagoon'
3. Bally 'Addams Family'
4. Williams 'White Water'
5. Williams 'Fish Tales'

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NEW ZEALAND NEWS

- The first NZ coin amusement company to become involved in Virtual Reality took delivery of its two pod system this week. The two pods are manufactured by the English company "W Industries" and were delivered to Stages Entertainment Centre into a specially constructed room. Maarten Boogart had tested these units earlier on in the year and had been so impressed with their initial earnings that he had decided to buy them as a permanent attraction.
- A delegation representing Auckland (Darrell Skiffington), Wellington (Mike De Ruyter) and the South Island (Gary Walker) met with the Minister of Internal Affairs (The Right Honourable Mr Lee) in his offices at Parliament building on Tuesday 13th July. The Ministers dept will be responsible for enforcement of the soon to be passed Films, Videos and Publications Classification Bill that will for the first time bring video games within the control of government censorship. The recent outcry against violent games will now be tested in court as members of the public are given the right to complain about games they consider unsuitable and to have these games either withdrawn or placed on age restricted availability only. The delegation was pleased to learn that the government did not intend to pass further legislation at this stage (as had been stated in the media) although a private members bill from the opposition dealing with violence may have a further impact on certain games.
- Further whole machines have gone missing in the Auckland area with the latest being a complete Mortal Kombat game taken from location. Despite recent prosecutions this trend is still on the increase.
- Wellington operator Arthur Wright has purchased Skilltester units to install on the Cook Strait Ferries. While large numbers of NZ and overseas visitors travel across this strait yearly it is also a very rough passage in the wrong weather and it will be interesting to see how the crane games react to horizontal playing conditions.
- Porirua recently had its first arcade for some years open after local council members agreed to a centre many of them had initially been against. The Funhouse centre opened on the 8th July with an age restriction allowing only those people 12 years and older to enter and play.

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King of Monsters	400
Magicians Lord	250
Fatal Fury	400
Burning Fight	350
Sengoku	350
Robo Army	400
Football Frenzy	400
Mutation Nation	400
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1 Olympic Soccer	900
1 Rally X	200
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1 Spider Man	600
2 Sunset Riders 4P	1000
1 Tank Force	500
1 Tao-Taido	1200
1 Three Wonders	1100
1 Thunder Dragon	800
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1 Varth	1500
4 Vendetta 4p	800
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Fatal Fury	450
Ninja Combat	200
King of the Monsters	300
Art of Fighting	650

Call (09) 408-0038

All prices exclude GST & freight

Graph 2

	Total	Male							Female						
	M+F 3,408	Total M 1,666	Teens 172	20s 305	30s 266	40s 351	50s 298	60s+ 274	Total F 1,742	Teens 143	20s 328	30s 301	40s 366	50s 287	60s 317
Igo	4.8	8.7	7.7	2.6	4.7	9.9	13.2	13.6	1.0	1.4	0.6	1.7	0.6	1.0	1.0
Shogi	11.8	21.7	36.7	21.7	15.8	23.3	23.4	13.7	2.4	5.3	2.4	3.1	3.4	0.7	1.1
Card/Board Games	35.7	36.8	65.2	47.5	47.9	38.0	20.3	12.9	34.6	63.3	49.3	46.8	33.7	18.3	10.6
Karaoke	51.9	57.9	64.9	76.8	65.6	56.3	52.8	32.5	46.1	79.0	74.0	42.6	42.8	41.1	14.3
Home Video Games	26.0	31.5	70.3	49.5	44.0	29.3	6.6	5.0	20.8	47.3	35.2	30.9	15.7	5.8	3.7
Arcades/Game Centres	22.0	26.1	67.6	55.7	36.1	11.6	2.9	1.6	18.0	40.4	45.3	22.7	7.2	2.8	1.3
Mah-Jongg	12.0	21.1	26.1	23.8	22.3	22.6	20.3	12.8	3.3	1.4	3.2	2.0	3.6	6.8	2.3
Billiards/Pool	6.4	10.5	26.0	27.2	9.1	3.7	2.8	0.7	2.6	7.3	9.0	0.7	0.5	--------	0.3
Pachinko	28.1	40.4	26.2	54.7	49.4	49.7	34.8	18.7	16.4	16.0	32.4	18.6	14.5	11.7	4.4
Lotteries	36.4	43.0	12.2	41.7	49.6	52.8	55.4	31.4	30.0	10.1	31.7	36.0	38.8	32.9	18.8
Horse Racing (lg track)	9.5	14.9	7.0	24.5	15.2	18.0	14.6	5.0	4.4	1.4	7.8	5.0	5.8	3.5	0.7
Horse Racing (sh track)	3.2	4.6	1.7	6.4	4.7	5.4	5.3	2.9	1.8	-------	5.0	1.7	0.9	2.2	0.4
Bicycle Racing	1.6	2.8	1.2	3.2	2.7	3.7	3.8	1.2	0.4	-------	1.3	0.4	0.3	0.3	--------
Boat Racing	1.5	2.7	0.6	3.9	3.1	4.3	2.5	0.7	0.4	-------	1.3	0.4	--------	--------	0.3
Auto Racing	0.4	0.8	------	1.1	0.4	1.8	0.8	------	0.1	-------	0.3	--------	--------	--------	--------
Inter. Cuisine/Dining	66.3	65.1	51.0	71.1	72.8	69.4	66.9	52.0	67.5	67.5	77.9	72.3	74.7	60.3	50.4
Bars/Pubs etc.	43.2	56.9	16.4	73.8	74.3	70.3	56.3	30.0	30.1	26.6	56.4	29.1	35.5	23.6	5.2
Clubs/Cabarets	5.3	9.3	------	7.3	11.3	17.8	11.3	2.7	1.5	0.7	2.9	1.4	1.8	1.7	--------
Discos	3.3	3.1	4.1	9.6	2.6	2.3	0.4	------	3.4	3.5	12.5	1.8	1.5	0.7	0.3
Saunas	10.5	14.3	5.7	15.1	19.4	19.5	13.7	8.0	6.8	6.4	10.9	7.0	7.2	7.1	1.7
Amusement Parks	38.4	36.5	42.0	46.9	63.1	38.7	14.2	17.4	40.2	58.1	66.8`	67.2	29.5	17.8	11.6
Excursions/Travel	25.3	24.2	10.4	24.3	31.2	27.0	25.7	20.7	26.4	17.1	28.8	26.8	29.0	31.3	20.5

average age showed an increase, leaving many people wondering if the customer base is maturing.

79% of Teenage Girls Visited an Arcade in 1992

Graph 2 gives us the Leisure Activity Participation Rates for both men and women of different age groups. A total of 3,408 people were surveyed, 1,666 men and 1,742 women. Of this, 66.3% of the men and 67.5% of the women listed dining out as the most preferred leisure activity. Other activities popular among men included card games such as bridge (36.8%), pachinko (40.4%), playing the lottery (43.0%) and going to bars (56.9%). Women also enjoyed card games (34.6%), and quite a number of them said that they also enjoyed pachinko and the lottery (16.4% and 30.0% respectively). Karaoke managed to score very highly among both sexes. A total of 51.9% of the male respondents said that they participate in Karaoke and this figure was 46.1% for women. Among the different age groups, it was men in their 20's (76.8%) and teenage girls (79%) who accounted for the greatest percentages. The latter figure is particularly revealing. For the past two years teenage women have constituted the bulk of the female customers, and those karaoke operators who have targeted this market are said to be doing relatively well.

An average of 26.0% of the men and 20.8% of the women said that they enjoyed playing home video games. This was not significantly different from last year's figures of 25.3% and 19.8% respectively. Among the men, teenage boys had the largest participation rate (70.3%) which was a slight decrease from 1991 (72.1%). Those in their teens also accounted for the largest share of female participants (47.3%).

As far as game centres and arcades are concerned, the Leisure White Paper has showed what those in the coin-op industry have been aware of for some time: more and more women are going to arcades. This year, the total participation rate for women stood at 18.0%, which was a 4.6% increase over 1991. Women in their 20s made up 45.3% of the female customer base, while the participation rate for teenage girls stood at 40.4%. For men, a total of 26.1% said that they go to game centres, the largest percentage being teenagers as well (67.6%).

- Yifans have opened another arcade in their NZ operation in Hamilton. The company indicated that they intend to place 20 centres throughout NZ in every major population centre in the next few years.
- The Papatoetoe council is proposing to review council by-laws relating to video games with an intention to reduce the numbers allowed inside shops from three units to 2 units only. They have also expressed concern about the content of some of the games available. The Auckland association will be making representations to the council and hopes to be part of the review. The Association has also had a meeting with the local Labour MP for Papatoetoe about his concerns.
- In a further effort to combat copy products a retired detective sergeant has been employed full time to inspect every video games location for copy products in the Auckland area. While legal action against copy products has continued (especially in the area of Streetfighter games) over the last few years the increase in the availability of copy products for a wide range of games has necessitated this action in New Zealands biggest city. While in the past operators only have been charged; this new initiative will see site owners who refuse to remove offending material also charged with breaches of the copyright act.
- The new 50" unit has completed testing and is now shipping. This unit can be used as a show piece in your arcade and can be used with any standard pcb or combined with a dedicated unit to produce a unique piece.
- The new Bally/Williams sample Indiana Jones has arrived in NZ and is now out on site test. Although this unit will not be available until after the release of Twilightzone it is clearly a great machine and continues the trend of recent quality machines. While the first shipment of Twilightzone has been fully sold customers can still secure units from the second order due in September.
- Coin Cascade will soon be using the latest flat screen tube and monitor system on all its standard cabinets. This technology has been well proven around the world and combines reasonable cost with a top quality picture. Coin Cascade also now stocks the Japanese Nanao 26" tube and monitor system and offers this as an option on all standard cabinets and dedicated units.
- Last months article on industry violence sparked some comment within the industry. Certainly the reality of the situation should motivate all of you to carefully screen the equipment you offer to the general public - remember if you do not, someone else will.

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Products Available This Month

ALL PCBS INCLUDE: MYLAR AND TWO PLAYER LOOM

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Dedicated

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- Complete with Nanoa 26" tubes
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- The game for 1993

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(2 or 4 player kit)

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- Top earning game in the world today. **$3750**

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top combat game with proven earnings. A must for the school holidays. **$895**

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(All Neo-Geo games/products are marketed in NZ under an exclusive distribution licence held by Coin Cascade Ltd.)

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4 slot kit / Samuri Shodown	$2690

PINBALLS

Twilight Zone

This product is marketed in NZ under an exclusive distribution licence held by Coin Cascade Ltd.

- The worlds number one pinball with top earnings and market share. Initial container sold out with only a few remaining in the second order. Delivery expected in September.

ADD G.S.T. TO ALL PRICES IN THIS BOOK

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Leisure White Paper 1993

The AOU Survey for 1992

A statistical look at the state of the industry in 1992. Sponsored by the Japan Amusement Operator's Union.

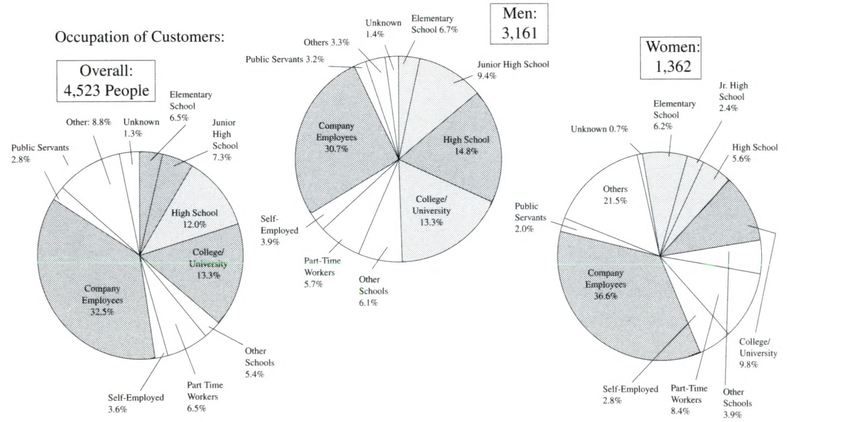
In 1992, the Japanese amusement industry began to feel the effects of the general economic recession, although not as badly as other sectors. The percentage of women respondents doubled, while the customer base, like the population, is getting a little older.

The first major difference between the 1991 and the 1992 survey is the fact that the percentage of women respondents increased from 15.5% to 30.1%. Other major trends noted were an increase in average age (22.8 for men, and 24.5 for women). There were a number of decreases as well. The number of times the average customer visited an arcade as well as the amount of time they spent in the arcade showed a downward trend. Yet, on the other hand, the average amount of money spent by the player increased. What does this mean? The first thing it indicates is that customers may have their favourite games that they keep going back to, but as the economy is still in a recession, which began to make itself felt in the amusement industry around the end of August last year, it seems as if players are much more cautious about how they spend their extra money.

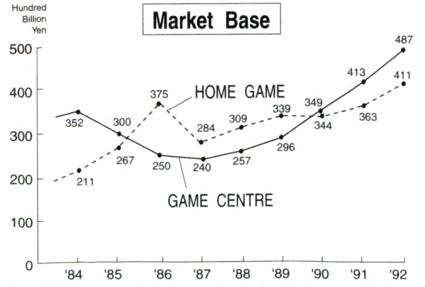
There was good news for those location operators who have been struggling to upgrade their facilities and attract more female customers. Despite the fact that the crane game boom, which was responsible for much of the revenue in 1991, has clearly abated, there are still enough of these machines around that are doing a good business to cause operators to think very carefully whether or not they want to replace them and run the risk of losing their female customers.

A breakdown of the respondents shows that almost half of the respondents (44.5%) were students, while company employees and government workers accounted for 35.3%. Those under the age of 20 dropped from 68.6% in last year's survey to 45.4% this year. As noted, the

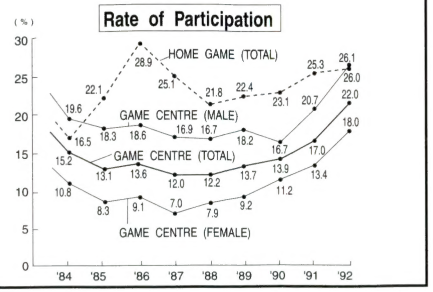
Occupation of Customers:



Market Base



Rate of Participation



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Printed Mylars (any name)		$30.00
Neo-Geo Mylar		$55.00
Lexon panels (each)		$8.00
Header panel angle		$8.00
PCB holders (plastic)	1 off	$20.00
	10 off	$16.00
Degausing wands		$170.00
Arch rival control rubbers		$25.00
Pricing labels - standard		$1.00
Pricing labels - large		$5.00
Pricing labels - formica		$7.00

MINI LOOMS

Complete mini loom - 1 player	$38.00
Complete mini loom - 2 player	$45.00
Complete mini loom - 4 player	$65.00
28 way edge connector	$8.00
22 way edge connector	$7.50
18 way edge connector	$7.00
Mini loom plug	$4.00

SECURITY BARS

Taito (NZ) cabinets	$40.00
Pinballs	$40.00
Special bolt only	$35.00

DRIVER PARTS

Steering wheels	
Gearsticks	$110.00
Atari steering combs	$35.00
Atari steering housing	$55.00
Outrun steering springs	$20.00
Taito gearstick (for SCI/Chase HQ)	$45.00
Taito gearstick buttons	$25.00
Taito steering motors/gearbox	$400.00
Sega 5k pots (suitable drivers/guns)	$48.00

TOYS

Standard size		$2.65
	200 plus	$2.55
	600 plus	$2.50
Jumbo size		$9.00

AIR HOCKEY TABLES

Pucks	$12.00
Bats	$25.00
Plastic Shields	$200.00

REDEMPTION PARTS

Knockdown balls	$20.00
Skeeroll balls	$25.00
Redemption display cards	$2.50
Redemption lettering	.70
Redemption card holders (perspex)	$8.00
Redemption (60,000 tickets)	$580.00

PINBALL PARTS

CP 100 Pinball cleaner & polish	$20.00
Novis Playfield polish #2 only	$15.00
Pinball service book	$65.00
Pricing labels - coin entry	.60

We stock a full range of Bally/Williams parts too numerous to list. We have the part you need - or we will get it.

All parts (excluding rubbers)

10-19pcs ordered of the same product 5% discount

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50+pcs ordered of the same product negotiable

Pinball Rubbers

20-49pcs ordered of the same size 5% discount

50-99pcs ordered of the same size 10% discount

100+pcs ordered of the same size negotiable

The "360" Strikes Again

Perfect 360 offers second-generation joystick

The folks at Perfect 360 Joystick Controls are solid engineers who turned their talents to coin-op a few years ago. The result was the Perfect 360 solid state joystick, which won rave reviews from the trade.

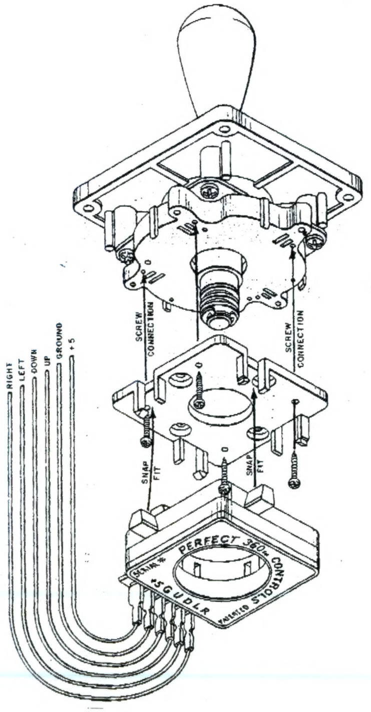
Well now they're back with a new, even better version they call *Second Generation.* This model debuted at ACME and, according to Perfect 360 president Randy Mitchell, the firm's booth was swamped with eager customers. "The new version is a tremendous success," he smiled.

The new infrared joystick module has several improvements over the firm's first generation. Switching circuitry is faster, totally impervious to dust, dirt and lint, said the firm. It's also more tolerant of ambient light. The centre hole, where the joystick articulates, is much larger. This allows for wear and tear of the joystick without physically touching the module. Said Randy; "We have also installed quick connects on the module for faster, easier installation."

The new module will now fit Happ Super, Happ Ultimate, Wico Leaf, Wico Conical and the Australian joysticks with the use of a simple adapter platform, said the firm. In fact, Perfect 360 is so confident of the new module, they are boasting a comprehensive guarantee on *Second Generation* control modules.

Some users have converted their entire route to Perfect 360 solid-state controls, which tells you plenty about the impact on revenues and reliability (higher) and maintenance (lower). According to the firm, features include: no moving parts to bend or break (each microswitch has four moving parts or 16 per joystick), 1000 times faster than micro or leaf switch, maintains perfect accuracy, eliminates down time and service calls, simple and easy retrofit, 4 or 8 way play.

These units have now been on test throughout NZ for the last three months on games such as Streetfighter, Mortal Kombat and NBA Jam and to date not one of the thirty test units has required any service work. The Perfect 360 bolts onto (replaces) the microswitch base on your MCA Control and require only the addition of a couple of extra wires to convert a standard loom. Units are available at $50 +gst each from your local agent.



Meeting With Mr Lee

Meeting with Minister of Internal Affairs Mr Lee
Subject: The Video Machine Industry

A meeting was held in the Ministers office in the Beehive in Wellington on Tuesday 11th July. Those in attendance were: The Minister Mr Lee, two of his private secretaries, Darrell Skiffington - representing Auckland operators, Mike De Ruyter - Wellington area, Gary Walker - Christchurch area. Discussion took place as follows:-

The Minister was happy to be informed on the industry as he was not fully aware of how we operate. The discussion ranged from Street operations, Arcades and Management of the Industry.

We told the Minister that we were satisfied with the censorship bill at present before the house for its second reading. We were however concerned as to how the Minister proposed to enforce the bill in relation to video machines. We discussed the problems as the industry saw it and he agreed that there were no easy answers.

However he said that the Chief Censor would act on a complaint but that his department had no intention of targeting the video machine industry. We expressed the desire to assist the department in any way to achieve a practical enforcement policy.

We spoke on the poor public image of the industry and on how we were being blamed for societies ills. We said that concerned operators were planning to form a Guild and to become united and to speak with one voice, also to set standards for the industry. The article in the June TimeOut Magazine, re "the papers to the select committee", were shown to him and he thought the concept was commendable and that we were acting in a very responsible manner.

We asked him about the private members bill which was targeting video machines and was going before a select committee. Mr Lee expressed surprise and said he had no knowledge of it. However he would check that out and advise.

We found Mr Lee approachable and he gave us the impression that responsible operators had little cause for concern from the Government but that Television and Video Films were of more concern.

We discussed in general, the operations of street locations, arcades, supervision of arcades, general behaviour.

We were fortunate in having just received from the University of Western Sydney, Australia "Summary statistics for the use of the TimeZone video arcade machines". We left a copy for the minister and copies can be made available to those interested. The research paper provides statistics which would be of interest to all operators.

The consensus of the group was that the meeting was worth while and that the Ministers perspective of the industry is now wider and more accurate.

The video machine industry is not being targeted by the Minister of Internal Affairs and only those operators who insist on having porn games and heavy violence games in their machines would need to worry. I consider that our efforts need to be directed to local authorities to prevent emotional and subjective decisions being made by Councils which could affect our business operations.

Darrell Skiffington.

PARTS/SPARES

CONTROLS

Controls (Rotary type)		$110.00
Controls (MCA type)	1 off	$30.00
	10 off	$28.00
	50 off	$25.00
Perfect 360° upgrade module		$50.00

BUTTONS

Button (MCA type)	1 off	$6.00
	10 off	$5.50
	50 off	$5.00
MCA clear head/instruction labels		$7.00
Dummy buttons (plugs)	1 off	$4.00
	10 off	$3.00
MCA button micro switches		$3.00
MCA spanners		$10.00

CONTROL PANELS

1) Standard/Taito/Simpo Cabinets-complete	
Single player complete	$120.00
Double player complete (3 button)	$190.00
Neo-Geo complete (4 button)	$210.00
Streetfighter complete	$240.00
3 player complete (3 button)	$300.00
4 player complete (wooden/overlay)	$540.00
4 player mylar overlay	$85.00
Taito Japan complete (3 button)	$200.00
2) N/G Range of Cabinets - complete	
Double player complete	$220.00
Neo-Geo complete	$250.00
Streetfighter complete	$280.00
4 player complete (metal)	$530.00
3) Metal Work Only	
Standard/Taito/Simpo Cabinets	
Single player/2 player/500 wide	$46.00
Neo-Geo style	$50.00
Streetfighter style	$46.00
Three player style	$90.00
4 player-wooden base/metal top	$260.00
Taito Japan style	$70.00
N/G Cabinets	
Double player style	$80.00
Neo-Geo style	$80.00
Streetfighter style	$80.00
Four player style	$295.00
4) General Parts	
Special bolts/nuts	$1.00
Control panel clamps	$8.50
Molex connectors - 12 way	$2.50
Molex connector pins	.15

COIN ACCEPTORS - ELECTRONIC

Microcoin S6 complete with built in credit board	$366.00
Micromate optional programmer for the microcoin	$262.00
NRI G13-0004	$345.00
NRI Front plate only	$30.00
Universal Credit PCB	$110.00
Universal Credit PCB/edge connector	$117.00
Credit Display Units	$75.00

COIN ACCEPTORS - MECHANICAL

Video game type (S1) 20c,50c	1 off	$85.00
Pinball type (S10) 20c,50c,$1,$2		$56.00
Coin acceptor return springs (S10)		$4.00
Front stainless plate		$20.00
AVE coin acceptor - 20c, 50c	1 off	$130.00
	10 off	$110.00
Coin acceptor microswitches		$15.00

TUBES/MONITORS

Nanao 26" Tube/monitor/trans.		$1390.00
Kortec Tube/Monitor/Trans. 26"	1 off	$890.00
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Tube/Monitor/Transform 20"	1 off	$480.00
(Kortek Original)	10 off	$445.00
Kortek 20" Tube		$290.00
Korteck 20" Monitor		$260.00
Korteck 26" Transformer		$60.00
Korteck 26" Tube		$470.00
Korteck 26" Monitor		$450.00
TV 20" Transformer		$45.00
Plastic Tube Surround 26"		$45.00

POWER SUPPLIES

Digital readout/15 amp/subboard	1 off	$130.00
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Digital readout/15 amp	1 off	$95.00
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Standard/15 amp/subboard	1 off	$110.00
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Novus No 2
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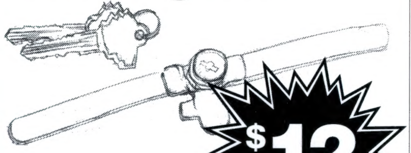

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complete with two keys

COIL PLUNGER SPRING

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Ideal for the older pins

FLIPPER & SHAFT COMB (WHITE)

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TWILIGHT ZONE

Twilight Zone from Midway should keep pinball's hot streak going - Courtesy Replay

"We build movies that happen to come in a box. Yes, they're from an assembly line, but what we're building on that line is entertainment," That's the philosophy of Midway game designer Pat Lawlor, and you can see that philosophy in action in his latest Bally pinball, Twilight Zone.

From the gifted recreation of Rod Serling's pressed-velvet voice.... to the instantly recognisable, spine-tingling logo and graphics... and the famous "door which must be opened with the key of imagination"... the game puts the TV series under a pinball glass.

Twilight Zone sparked instant excitement when Midway previewed it to dealers at the ACME show. It went on to generate a strong buzz of operator approval - and orders. The game entered full production in mid-April, and execs said demand was as high as for any game Midway has made in recent years.

You say the pinball boom of the past two years is due for a slow-down? Designer Pat Lawlor spent 16 months developing TZ to overcome those "mature market" expectations. In fact, the factory is ramping up a fifth production line to help ensure they have enough product. Europe gets the initial shipments and US tradesters should see the game in quantity by June.

Behind all the excitement is a game which truly does embody the TV series classic appeal. "The Twilight Zone TV show is really about everyday people, objects and events which, when you're in the Zone, aren't everyday anymore," Pat observed. "So I designed our Twilight zone pinball to have flippers that aren't flippers, pinballs that aren't pinballs, and a clock that's not a clock."

What does he mean by that? Simple. The "flippers that aren't flippers" refers to the "magnaflip" area where hidden magnets act like invisible flippers. Players control them by touching the usual flipper buttons. The "pinball that isn't a pinball" refers to a ceramic ball which is vended out of a gumball machine on the playfield. It's a bit lighter than a normal pinball, and its reactions with other playfield elements are correspondingly different.

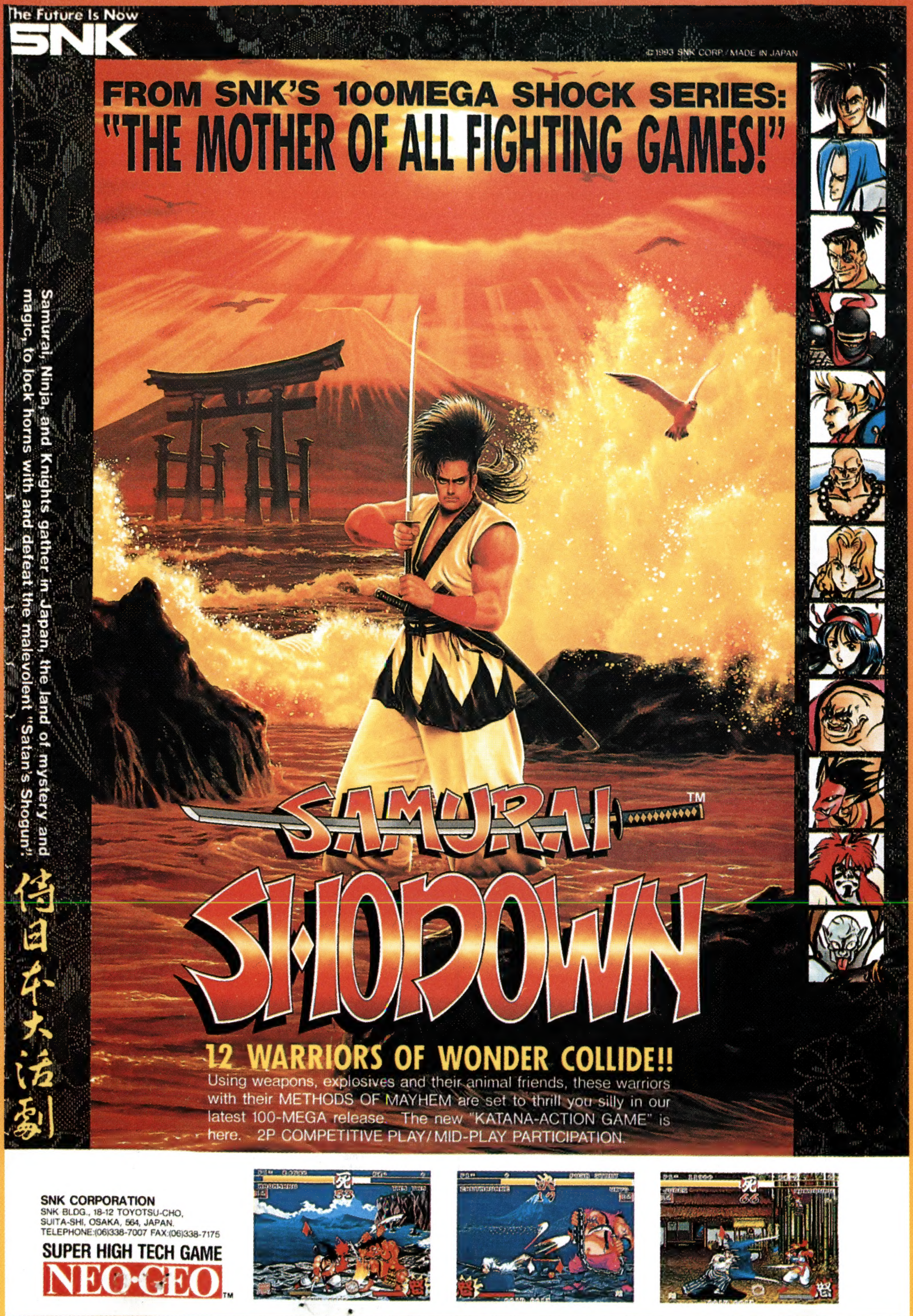
Finally, the "clock that isn't a clock" refers to an outstanding playfield feature: a zodiac clock that runs backwards, then forwards, then backwards, then forward, etc, etc. faster and faster. Meanwhile, the player tries to keep the clock hands from reaching midnight, through repeatedly hitting a centre playfield target.

Gameplay offers many levels of challenge. For the novice player, easy target action runs the zodiac clock (which plays the ominously cozy "Pop Goes the Weasel") and piles up bonus after bonus. More advanced players can get into the ramps, skill shots and six-ball multi-ball. Top players can play a whole variety of "games within the game" as listed on the door in centre-front playfield graphics. Basically, it's the same many-tiered gameplay approach that made Addams Family the top-selling pinball of modern times. And why not? Pat Lawlor designed that one, too.

Dot-Matrix animation by Ted Estes features plenty of clever and compelling graphics with the "door to another dimension" spinning into space at one point. Characters from the original TV show also appear, along with feature reward graphics and special visual effects that do a lot to pump up player excitement. Incredible sound adds to the impact.

By the way, we guess Pat had some sly fun with Rod Serling's trademark phrase, "You're entering another dimension." It's literally true in this game, since Pat created a new playfield dimension to throw off player's expectations. Trademarked as a "Superpin", the format is just a touch (2.75") wider than the previous playfield standard. "It's not size for its own sake but a subtle change that gave us extra room for certain features, "Pat grinned. "Players try it and they're puzzled. They say: "I don't know, something is different"....and then we've got 'em!"

Operators are urged to unlock the door to higher pinball profits with the key of solid investment.



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International News Update

USA

Director of Investigations Appointed

Mr Robert Fay, executive director of the American Amusement Machine Association (AAMA) has announced that Mr Richard Trindle has been hired as Director of Investigations, effective July 1993. Mr Trindle will replace Mr Bill Kidwell, who is retiring in July. "AAMA's enforcement program will be especially enhanced by Mr Trindle's investigative background and over 30 years experience in US Customs," said Mr Fay. Mr Trindle had previously served as Assistant Special Agent in Charge, Office of Enforcement, US Customs Service in Chicago for five years. He helped develop a strategy to combat fraud in the Chicago district, which included work in intellectual property rights suppression and smuggling merchandise. He has also served in Washington DC as Director of the Fraud Division, directing the affairs of three offices: Annapolis, Jacksonville and Detroit.

AAMA has established an enforcement program to combat the flood of copyboards, among other goals, and is working with the US Customs Service, FBI, Royal Mounted Police, and Mexican Customs Agents, etc., to decrease the flow of counterfeit products.

Trade Moves Toward Self-Regulation of Vid Violence

- The flap over media violence - including video games - continues. During public hearings in May and June, the US Senate roasted TV producers because of violent shows and two bills were introduced to regulate broadcast content. Producers promised to tone down the blood and guts this fall. Parent groups said it was "a matter of time" before attention turned to video games, as well. Accordingly, Sega of America (consumer division) announced May 23 that it will impose a voluntary rating system on home video games. Games will be rated suitable for all; suitable for 13 and up; or suitable for 17 and up.
- Two of America's leading manufacturers of low cost flight simulator components have combined to launch a new product called the ICE Falcon.

The two companies, Tellurian and Thrustmaster, have created a simulation of the F-16 Falcon military jet aircraft, offering the player three dimensional computer image generation at low cost for the operator.

The product has been developed using sophisticated flight dynamics and realistic sound software, running on a standard PC to control the simulator. Players can select the type of mission they fly, whether solo or in a squadron and the level of difficulty.

In addition entertainment systems manufacturers and developers will have access to the system software, allowing them flexibility to customise the game to their own specifications.

UK

Willis Receives OBE

BACTA's General Secretary, Alan Willis, was last Saturday awarded an OBE in the Queen's Birthday Honours List.

The citation accompanying the award published in the London Gazette, stated: "For services to the coin operated amusement machine industry." Willis said" "I am absolutely delighted to receive such an honour, particularly as I have enjoyed working for BACTA so much over the years. I am especially pleased that this industry is recognised, through this award, as a valued and respected contributor to the culture and economics of this country."

In a statement to Coin Slot, BACTA President Roger Withers paid tribute to Alan's work on behalf of the industry. "This is a fantastic achievement," he said. "It clearly recognises the value of Alan's contribution to the development of our industry over the past 30 years."

Holland

Excellence Recognised

Play World in Almere has become the first Dutch amusement centre to be awarded a quality certificate.

VAN Chairman, Dr Doll unveiled the plaque with the legend "Qualified amusement centre, top class," at a special ceremony where company managers Messrs Bouwer and Keet gave a speech of thanks to their employees.

A strict inspection was held and the company won the official approval of the trade association because of its high quality premises and standards.

A second Play World centre is due to be opened in Almere-Buiten later in the year.

Portugal

Distributors' Business Meeting

The driving force behind the success of Sega's European distributor meeting held in May at the Penina Golf Resort on the Algarve, Portugal was the new Out Runners driving game, a heavily updated twin version of its predecessor.

The original Out Run, produced in 1987, was described by Michael Green, Managing Director of Sega Amusements Europe Ltd. as one of Sega's greatest successes ever.

The new Out Runners endorses Sega's commitment to driving games following last year's launch of Virtua Racing, the performance of which was praised by distributors in Europe.

The new Out Runners has more to offer in terms of flexibility as it is not only produced in upright and cockpit forms but also in a mini version - son of Out Runners!

This product is marketed in NZ under an exclusive distribution licence held by Coin Cascade Ltd.

Self-Regulation

International comment about video game violence from Christic Butterworth, Editor of Euroslot

The clash between our moral responsibilities and our duty to preserve and enhance our company's commercial performance is often a very difficult situation to handle. Sometimes the two can be irreconcilable.

How can a games' developer keep violence out of a video game when violence is a daily part of our society? How can he be expected to deliberately make games which do not reflect society and thereby fail to maximise the potential income for customers and his employer?

To claim that violence in games is necessary to achieve realism is understandable. To claim that this justifies in itself the use of violence in games is to risk being accused of an artificial whitewash to preserve business.

There has to come a point where the moral responsibilities which we all have, merely as citizens of the world, let alone as people in a position to influence young people and help form opinion, lead us to conclude that enough is enough.

Our problem is that the word "moral" is capable of so many interpretations, so many different values. What is excessive violence to one person is not to another.

But, if we don't fix an optimum point, then someone else will do it for us. Perhaps there's nothing wrong with that. After all, if a government sets up the legislation to control which games are allowed into its market, then it saves the coin machine industry in that country the job of doing it.

But there is an old saying in the coin machine business, based on many years of bitter experience: better self-government even than good government,

Legislation to censor video games may present the relative government with an opportunity to just throw in one or two other things on coin machines which just needed "tidying up". Before you know it, the industry is saddled with all kinds of horrors it hadn't bargained for,

We are really talking about consumer products, of course. That is where all the media attention is at this time. And of course we're involved because if legislation is enacted against consumer products, then coin-op could be included.

But are we just talking consumer? If we're honest we all have to admit that we have noticed the rise in aggressive coin-operated videos too in recent years.

We do not think that the coin-op business has become excessively violent and certainly not as violent as TV, movies or consumer video games. But they are not the elements being attacked in the press at the moment. We are.

Our house does not necessarily need putting in order right now. But some show of activity in the censorship field by the industry may well be required if we are going to deflect the attacks of those who would needlessly control us.

Let's do it before they do.

WURLITZER

Wurlitzer Pty Ltd New Zealand Branch has recently been established as a sales and service branch of the parent company, our prime objective being to secure a good working relationship with New Zealand Jukebox and vending operators through our quality products and after sales service support.

Our Auckland showroom and service centre contains our full product range including the famous Wurlitzer 1015 CD model Jukebox. These nostalgia machines are probably the most renowned of all the jukebox models and are making a strong come-back with CD technology. We have two other free standing models available, the New York 100 CD machine; a very popular Ultra modern design and the New Orleans compact partyhire machine to compliment our range. All of our equipment comes with a full year parts and labour warranty.

Vending whether is be Music, Cigarettes, Snacks or Drinks, holds a very promising future in New Zealand for many years. There is still equipment in operation after twenty years of good service, quietly turning over good profits year in year out and still probably commanding prices in excess of when they were bought new, now that's what I call a good investment.

There are quite possibly operators out there who are looking for further opportunities in the vending market place, perhaps in snacks or drinks. There may be a sell on situation. Please don't hesitate to contact us for an operators price list or for any further information you may require.

Wurlitzer Pty Ltd (NZ Branch) is located at, Unit 1, 83 Springs Rd, East Tamaki, Auckland, PO Box 38-295 Howick, Phone 09-274 6010 or Fax 09-274 4888. Please feel free to contact Gerard Mac Donald should you require any advice or assistance on our product range.

The majority of threads are American 6/32, 8/32, used commonly in aircraft, so a good range of quality locknuts, washers etc can be found at aviation supply warehouses. Machines are assembled using power tools in the factory so a socket set and posi-drive screwdrivers only, are necessary to keep frustration levels down.

The Client and the Flippers

Because the flippers are the main factor the player has control over, they must be in excellent working order. Buttons, when sticky are very annoying, modern buttons are easily removed from the cabinet and most don't have internal springs so can easily be washed in hot soapy water or replaced. Flipper rubbers need to be in top condition, severely hacked rubbers give a bad impression visually of the game and operator. Often the player is looking to tap the ball off its suicidal path to the outhole with the outer tip of the flipper, so often I see the ends of the rubber worn completely away. The moment you see the slightest scuffing or wear on the end of the flipper rubber it should be turned and seated down on the flipper. Needless to say the rod, link and tube should be in good condition. Check the rod end and backstop for burrs, fit a new tube if the end looks worn or very dirty, check bushings for cracks or dirt, polish rod of flipper and use spacer for height/endshake provided with games (white plastic), no lubrication is used, (no CRC). Replace insulator if it wears through on the pawl, it will wear the copper point then jam.

Dracula Checklist

If the motor driving the magnet underneath the playfield sounds at all laboured, check the auger is free moving/ floating on the driving dog. If not remove the supporting end, take out nylon sleeve (white) and file or sand the hole for more clearance. Check the driving dog for dags and file or sand the slot in the auger until clearance is achieved. I recommend that a piece of mylar be added where the ball drops off the start ramp onto the playfield. Where the ball popper wire guide intersects with the wire ramp half way up the left side of the playfield check the ball doesn't jam in that area. Adjust the drop target so it sits just above the playfield level, (only of this game). Check that the ball clears the ramp around the right of the coffin, also that the ramp up/down has clearance. Ensure the spring on the spring gate allows the ball past in the shooter lane to allow for "feature setup."

Regards John Weaton (WIZ)

- Grease steel knob where it pushes the reject flap open.

Now check wires etc clear locking bar lever in the closed position, can get caught on $2 coinslot light wire and bulb holder. Check coindoor key exits cleanly from lock when closed. May have to file back angled flap on the lock tab where it stops against the door frame. Run coins through door. Entire machine must be checked for assembly quality, plugs and connectors pushed on together, connections soldered, loose or stripped nuts, screws parts, target bulbs tabs touching, ball papers, eject, ball shooter rods unobstructed. Flipper endshake correctly spaced. All rubbers correctly fitted. Any modifications done, reinforce vulnerable plastic parts, mylar where ball drops onto playfield, ball flows along ramps and wires under it own weight, no places/corners where ball "dies" on playfield.

Clean and vacuum entire game, check for anything dropped in packing or cabinet, place one only ball in ball trough, push it back off the no 1 switch and check if it returns under its own weight.

Clean and polish balls and place on playfield without touching them with your dirty fingers.

Only now, after checking and assembly should game be powered up, check game pricing and settings. Now check MPV batteries, wipe contacts with a clean cloth, check quality of soldering battery pack to MPV board. Check backbox bolts spin down easily. You may have to tension up the coin door slam switch. Play a number of games to check how game plays and feels, leave books and parts with game.

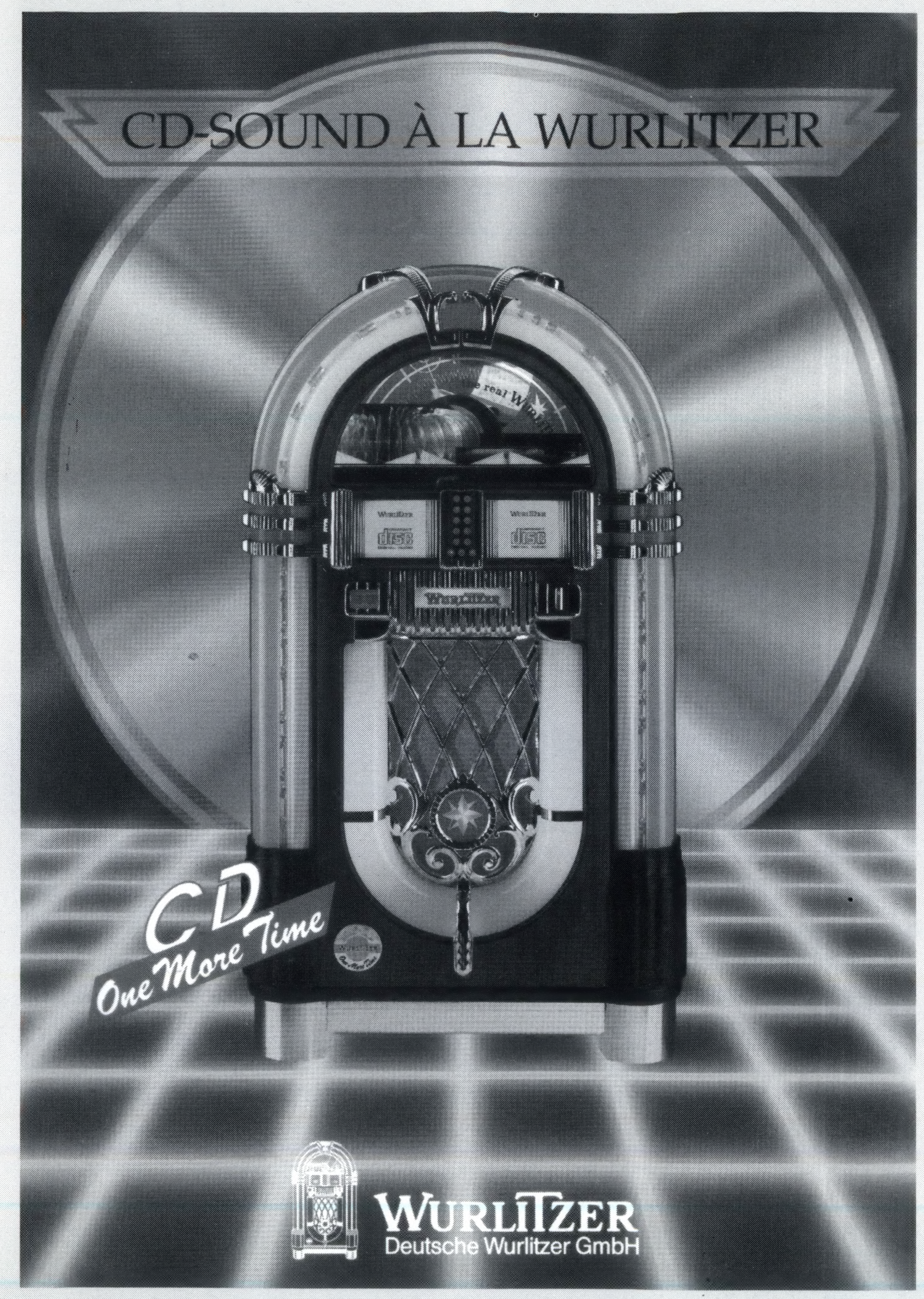
Overview. Its better to check all this now than out on site with accompanying embarrassment and its easier to work on a game in the workshop.

Tool Kit

I carry a multi-level toolbox, commonly used tools in the top trays, heavy pliers etc. in the bottom, centre trays hold odd tools and two small plastic tackle boxes with fuses, bulbs, screws, flipper rod link and tubes, same for slingshot and eject, precut shrinkfit tube for flipper contact insulators. Base assemblies for slingshot 2", 2.5 " + flipper rubbers.

Essential tools are:

Small quality socket set
Multitester
Soldering iron and solder, solder sucker
Allen keys, imperial
Very long, longnosed pliers.
Watchmakers eyeglass, pliers, sidecutters, screwdrivers, tweezers.
Posidrive screwdrivers, small, standard, very long, standard, very short, bic flick lighter.
Needle file set, small halfround, medium flat file.
Brush, polish, grease, matches, Ados glue, bulb fitting tool, clean rags.
Jaguar wire tool
Torch, scissors, auto lock knife, 3 black screw drivers
Open ended spanners 1/4, 5/16, 11/32, 3/8 spanner for legbolts
CT 100 playfield polish, playfield cleaner.



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Central N/I: Robert Briggs Ph (07) 346-3783 Fax (07) 346-3784
Lower N/I: Mike De Ruyter Ph (04) 569-9107 Fax (04) 569-9107
South Island: Gary Walker Ph (03) 338-1411 Fax (03) 338-1410

Pinball Set-Up In NZ

Letter from John Weaton (WIZ) from "The Pinball Company" NZ's largest operator of pinball machines

As pinball operators and enthusiasts we are committed 100% and long term to the machine with flippers. To get the best from your pinball you must give it your best. There are still operators who empty the cashbox, grumble and walk away. Cleaning the playfield and glass isn't enough. The machine needs to be presented to the public with a combination of factors to bring the beginner, casual player and dedicated follower back after their first coin/play.

This column will be dedicated to the promotion and growth of the pinball machine. I shall cover repairs and maintenance, new machine set-up, preventative maintenance, individual machine coverage and analysis. I invite any contributions from other operators. We at the Pinball Co. feel the best way to realise the best from the pinball industry is with a nation-wide, informed, professional approach to marketing the product to the public.

Assembly of New Machine

Open box, locate keys, open coin door, remove game. Check cashbox, parts, books, power cord. Spin locknuts onto leg feet, front feet all the way down. Rear feet about half way. Screw feet into legs, front all the way up, rear approx. 4 threads showing up into the leg. Tighten locknuts, put legbolts into legs and place nearby. Raise front of machine, fit legs. Raise rear vent holes for grip, raise rear of machine and fit legs. On a level surface, raise backbox and clip into place. Remove metal plate, glass, and raise playfield. Record or write both key numbers on inside of machine. Separate backbox keys, one key onto hook on coin door then 2nd key still on its loop on next. Door key onto your ring, spare key to a safe place where it can be found if necessary. Fit plumbob wingnut, then weight, then second wingnut, check it hangs centrally, tighten wingnuts. Fit your own security bar/hasp/padlock, vacuum up any shavings. Check correct coin slots, labels, coin mechs. Fit coin switch wire if needed and push on grip washer with a suitably sized, magnetised tube or socket or custom-made tool. Check coinwire clearances: sit coin on wire, slowly let it drop to check clearance, often $2 wire needs to be adjusted back towards coin switch. Check wire audibly clicks down then clicks back.

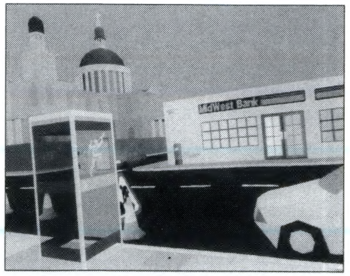
- $1 wire needs to be close to the vertical face of exit slot as it has been seen to jam in the down position.
- Sit a 10c piece in the rocking cradle of the $1 coin mech and adjust dog leg lever so it just stops the 10c from proceeding.
- Check all clearances of coin through coin mech.
- Check $2 coin clears alloy reject lever as it rotates in cradle: you may have to bend shorter arm of cradle out very slightly.

you still have a Yugo. Likewise, software development and peripherals such as headsets are only part of the whole system, and are ultimately dependent upon chips to process the information. Simply put: the more powerful the chip, the more realistic, and eventually, thanks to mass production, the cheaper the system. Dr Waldern has said that the ultimate goal of VR entertainment is to replace the visual cinema with an interactive one, where the audience participates in, say, "Casablanca," instead of just watching Humphrey Bogart outwit Claude Raines and woo Ingrid Bergman. For this ideal to become both technologically possible and commercially feasible, more research and support for the industry, in all areas, is needed.

If commercial applications of VR are to succeed on the scale that many predict, there are several other issues that need to be addressed as well. First and foremost is the standards debate. "Whose hardware/software do I buy and how do I know that it isn't going to be obsolete within a few months?" These are questions that many in the worldwide amusement industry are now asking both themselves and those within the VR industry. Not a few amusement operators, remembering the situation at the beginning of the computer revolution a decade ago, are understandably reluctant to invest incredibly vast sums of money on a system that may not produce a profit right away. In an industry where a game's life is often measured in weeks, VR equipment, which costs thousands of dollars, takes a long time to develop and does not offer an immediate return on investment, some operators simply cannot afford to wait for VR pieces to turn a profit.

Of course, this is not to imply that all operators are wary, as this is definitely not the case. In America in particular, operators such as Mr Bill Cravens have praised systems such as Virtuality. The mass media has raved about virtuality entertainment systems as well and customer interest continues to grow. This, in turn, has led to increased interest on the part of many within the amusement industry. As proof of this interest, the recent ACME show featured a special seminar on virtual reality which drew 199 people. The panel members were representatives from leading manufacturers and operators, all involved to some extent in the VR amusement industry. As the seminar began though, it became clear that better communication needs to be established with those would-be-purchasers of VR equipment. Many people went to the seminar expecting some "hard" answers on virtual reality and perhaps a more general discussion about where the industry was going. Unfortunately, what they got was little more than an aggressive, although well-meaning, sales pitch and some technical jargon that occasionally left the listeners obfuscated. The assembled audience had a variety of very pertinent questions about cost and obsolescence for which the panel seemed unprepared. If VR is to succeed among current operators in the coin op amusement industry, these same operators must be thoroughly convinced via the bottom line that it is a wise business move, in both the short and long run, to invest in a VR machine, and that they are buying something that will not become as obsolete as quickly as a TR-80 or Wang personal computer did back in the early 1980s.

The future has arrived, and there is little doubt that VR will continue to play an important role in the development and expansion of not only the amusement industry, whose applications are obvious, but in more technically complex fields such as biotechnology, aeronautical engineering, medicine, and architecture. Those in the amusement industry with the creativity and imagination to apply VR research to a variety of entertainments, and the courage to think about the long-term potential, stand to benefit the most, not only in a narrow economic sense, but also in a broad historical sense. One hundred years from now, when our descendants look back upon our age and study the history of VR, the amusement industry may well be recognised as one of the main catalysts and beneficiaries of the ongoing VR revolution. As things stand now, the amusement industry is still recognised by both researchers and marketing personnel as being one of the first industries to take VR out of the lab and onto the market, and no one can really predict where it will go next. This is what make the future all the more exciting.



Midway Flexes Legal Muscle

Factory beefs up anti-counterfeit campaign in USA & world-wide; firm warns copy users: "I didn't know" defense won't work

Official word from Midway Mfg. Co a subsidiary of WMS Inc., about how the Mexico City and Brooklyn raids fit into Midway's larger picture. The Chicago vidgame maker is pursuing an aggressive US and worldwide enforcement campaign to defend its copyrights. The following is excerpted from a June 16 new release.

Midway Mfg. has substantially extended the scope of its battle against counterfeiters of its video games in recent weeks. In a series of raids in Korea, Canada, Mexico, France and the US with the co-operation and assistance of local authorities, Midway recently seized in excess of 1,000 counterfeit video game boards.

Midway also co-operated with authorities in order to obtain the arrest of two manufacturers of counterfeit game boards, and seized voluminous documentation relating to the manufacture and distribution of counterfeit vidgame boards in the US and throughout the world.

The recent actions are part of Midway's continuing global efforts to strictly enforce its copyrights and protect its intellectual property. In February of this year, Midway achieved major success in seizures in Italy. In April and May, Midway participated in broad enforcement actions in Taiwan. Here's a rundown on the latest Midway efforts:

Korea: Authorities here have staged raids, arresting one counterfeit game manufacturer. A second is sought. "Continuing investigations in Korea and other Far Eastern countries are unearthing valuable leads in the complex web of worldwide counterfeiting," said Midway execs.

Canada: Here Midway's been working closely with the Royal Canadian Mounted Police (RCMP) in cracking down on a large network of distributors and operators of counterfeit Mortal Kombat game boards. Over 60 distributors and operators were implicated. The information obtained, is leading investigators to other distributors of counterfeit game boards in the US.

Canada is believed to be a major channel for the distribution of counterfeit PCBs in the US and the RCMP is "vigorously expanding its investigations" to cut off the flow of illegal goods, said Midway.

Mexico: Aided by the Mexican Attorney General's office, Midway has prompted a major civil effort against some of the largest distributors of illegal copies. Midway seeks substantial civil penalties and damages, and is "developing valuable information" on the Mexican copy network.

Europe: Enacted new criminal copyright laws on Jan 1 to protect software, giving Midway the basis for enforcement activities in Italy which resulted last spring in raids on two major distributors of illegal copies. Midway says its enforcement campaign here is continuing in several additional countries.

The USA: Midway says it's been involved in several recent actions which "have developed substantial documentation and leads about the distribution of illegal counterfeit game boards in the United States." Working together, US Marshals and Midway have confirmed a "Canadian connection" in the copyboard pipeline into the USA. Midway has mostly targeted copyboard dealers until recently; but recent raids have yielded plenty of documents and other evidence leading to copyboard purchasers and users. Midway says its developing this information - legal lingo for "building a case against the crooks."

New Zealand: Full time staff have recently been appointed to inspect sites in Auckland. Initial inspections and prosecutions of site owners offering illegal products to their customers will lead to the group operating these goods with prosecutions to follow.

"It appears that most of the end users have reason to know that they are profiting from counterfeit game boards," said Midway execs. "Midway is preparing to launch major actions now against these end users. Expansion of the campaign will include arcades, convenience stores, bars and other purchasers and users."

Barbara Norman, VP and general counsel to Midway, addressed the issue of counterfeiting and theft of Midway's property as follows: "When we catch an operator profiting from a counterfeit game board, the typical response is 'I didn't know it was a counterfeit.' That response never worked and will not work in the future."

Midway's attorney continued: "Operators are hereby again on notice: you are responsible for making sure that you are dealing with an authorised dealer. When we catch you using a counterfeit game board - not if, but when - we will do everything we can to stop further illegal profiteering. We are very serious."

VIRTUAL REALITY Pt III

This is the concluding article about this exciting new technology - courtesy Jam

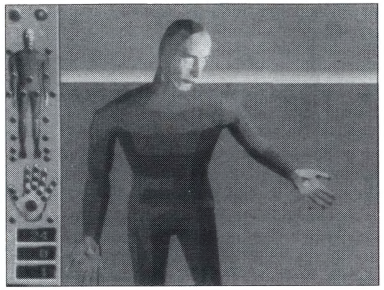
Japans Contribution

One Japanese company that has become more involved in semi-immersive VR amusements is Sega Enterprises. The company's R360 is essentially an action game that provides a video experience which, as their PR department says, "cannot be gotten in the home." In this game, you are a "top gun" navy pilot flying F-14's from the deck of an aircraft carrier. Literally strapped into the cockpit, the R360 also twists and turns you upside down and around as you chase enemy fighters. Unlike the real footage software packages of the D3BOS, the software for the R360 consists of video graphics. In the pursuit of ever more realistic action in video games, Sega has been on the move recently, signing an agreement with General Electric to assist in software development. Many in the amusement industry speculate that one of the first results of this collaboration will be high level computer graphics images which will be utilised in semi immersive VR type-games.

In addition to the R360, Sega is also working on a project known as the AS-1. This, as well, is a semi-immersive VR amusement that has been seen at several different exhibitions here in Japan. The AS-1 can best be described as a cross between an amusement park ride and a video game. Reminiscent of something out of a science fiction movie, the ride seats 8 people. Sega has now developed several different software packages, including one designed by Mr Douglas Trumbull, the special effects designer of "2001 Space Odessy" and "Close Encounters of A Third Kind." The AS-1 software package designed by Mr Trumbull is a live footage, space adventure game where the players merely watch the action on the screen as they are physically tossed and turned in a ship whose pilot, looking like a cast extra from a "Star Wars" movie, takes them on a very bumpy ride. When this software package was released several years ago, it was hailed by many as being the next step in VR, but others complained that "you don't do anything except sit there." At the last AOU show, Sega had that problem solved as well. A new video graphics software package allowed for an 8 player participation game, where players could fire guns at approaching enemy spaceships. In other technological developments, Sega premiered their latest video technology, which utilises a 32 bit processor to create (for the amusement industry) very lifelike graphics.

Of the major Japanese companies, however, it has been Namco Corporation that has been in the news most recently for their efforts to expand their presence in the VR sector. It should be pointed out that there are not a few critics engaged in VR research who frown upon the amusement industry's attempts at providing low-end VR type amusements. Yet, as Dr Pausch stated, "The first commercially viable applications will probably be in entertainment," although he was alluding more toward the fully-immersive type systems that, so far, only W Industries has produced on a commercial level. This situation, and the negative attitude towards the amusement industry that some feel, may soon change. Namco's recently announced agreement with Evans & Sutherland, the American company that produces high-level VR devices, paves the way for a new generation of high tech games. Although given the costs involved, it is unlikely that the amusement industry will see a flood of VR products from this venture within the immediate future, the direction companies such as Namco wish to head in is clear and the future may arrive a lot quicker than many predict.

As we reported last month, many people who are involved in VR research point to the comparatively low level of standardisation as one of the biggest obstacles to mass commercial development. As Mr Dow indicated, organised libraries of 3D tools are very important to the overall growth and development of the industry. In England, a company called Dimension International is one of the leaders in developing these kinds of tools. The president, Mr Ian Andrew, is considered something of a wizard in the software design field, having been involved in writing games for many different companies in the past. Dimension International is now in its tenth year of business, and at the recent VR '93 Conference and Exhibition held in London this past April, the company launched a new version of its Superscape VRT (virtual world creation and visualisation software). What is Superscape VRT? It is essentially a library of 3D tools, but one designed for the end user rather than those involved in computer programming. The entire software library consists of a number of different programs, including Visualisers, Script, Shape, and World Editor programs, each of which essentially allows the user to piece together his/her own virtual reality worlds and stories. Also available is a VR clip art library, a 3D version of the 2D clip art libraries. The problem of obsolescence is being solved by offering an optional upgrade program called Superscape Networks that allows multiple users to program their own VR worlds on a variety of computer networks such as IBM Token Ring and Novell. With such software programs coming down in cost (Superscape Networks sells for just under £3,000, or about $NZ10,000), the company is becoming more and more well known in Britain. They have also announced plans to increase their presence in overseas markets in the near future, and several people in the British VR industry have indicated that this company stands a very good chance of becoming a world leader in VR software within the next few years.



It is very easy to become excited about the potential of virtual reality, and although the applications of VR technology are being expanded every day, it must be remembered that VR is a new technology, one that, in the opinion of many researchers, is still in its embryo stage. Virtual reality amusements and entertainments, be they fully immersive systems such as Virtuality, or semi-immersive systems such as the R360 or the D3BOS, all face some common questions in regards to commercial development. From a marketing point of view, the first one might be just how do you successfully market VR pieces? Do you concentrate on one particular industry, such as the coin op or theme park industry? Do you try to market VR in both of them? Do you open up new markets, such as shopping centres, museums, etc.? There are many different philosophies concerning VR amusements and how they can best be marketed, although most of the major players stress the concept of VR as entertainment first and foremost. "Our mindset is to entertain people," says Dr Waldern. "We view virtual reality as entertainment," echoes Mr Yoshiaki Kubota of Sega Enterprises. If this is the case, it stands to reason that it must be promoted as such, and concept marketing, i.e. marketing a VR device around a particular entertainment theme, is beginning to catch on. In America, W Industries and Paramount Pictures/Horizon Entertainment, along with Spectrum HolyoBy Inc., the California-based entertainment software company that holds the license for home computer and video game software for "Star Trek: The Next Generation," have announced that they will develop shopping mall-based virtual reality entertainment centres with a Star Trek theme. In addition to the virtual reality centres, there will also be attached restaurants and merchandise areas.

We have seen that virtual reality has grown in scale and scope over the past decade or so, and that research, on both and academic and commercial level. continues at a frantic pace. We have also seen that there are many different kinds of virtual reality devices, and that the amusement industry, in the grand scheme of things, is actually on the lower end of the virtual reality spectrum at the moment. Although the technology is sure to improve with each passing year, virtual reality as an industry faces some basic technological barriers that currently inhibit some of the more idealistic visions of those within the commercial sector. First and most important, ever more powerful computer chips, which can process a large number of software tools at greater speeds, need to be developed. Computer chips are the engine of any computer hardware system. For example, it doesn't matter how nice the body looks, or if the stereo system can go up to 11, if you put a Yugo engine in a Corvette,